

Table S1: Data for figure 1. Volumes and status of treatment. Natural treatment includes ponds, lagoons, wetlands, and infiltration systems; mechanical systems include any mechanical system ranging from preliminary screening to advanced/tertiary; on-site treatment includes septic tanks, composting or small-scale biological /mechanical systems. *part of the municipality south of the Arctic circle. **Including Taymyrsky Dolgano-Nenetsky, Evenkiysky, and Turukhansky districts. Coordinates in decimal degrees World Geodetic System 84 (WGS 84).

	Inhabitants (PE)	Latitude	Longitude	Unknown treatment	No treatment (%)	Centralized conventional treatment (%)	Centralized natural treatment (%)	On site treatment (%)
Alaska								
North	30,160	69.3	-154.2	0	1	30	58	11
Interior	97,721	65.2	-146.7	0	12	46	5	37
Southwest	54,703	60.1	-158.8	0	4	19	58	19
Southcentral	485,099	61.7	-148.3	0	23	40	1	36
Southeast	71,072	57.5	-135.8	0	1	92	3	5
Cruise ships	36,000	57.8	-149.2	60	40	0	0	0
Canada								
Nunavut	36,840	70.3	-83.2	0	0	35	65	0
Northwest Territories	40,466	64.8	-124.9	0	0	3	97	0
Yukon	33,607	64.3	-135.2	0	0	7	93	0
Nunavik	14,930	58.4	-71.5	0	0	2	98	0
Nunatsiavut	3,536	59.7	-64.3	0	76	0	24	0
Cruise ships	91	-	-	60	40	0	0	0
Faroe Islands								
Faroe Islands	54,362	62.0	-6.8	0.3	0	0.2	0	99.5
Cruise ships	130	-	-	60	40	0	0	0
Finland								
Lappi	110,923	66.7	27.4	0	0	81	0	19
Greenland								
Avannaata	10,906	72,5	-56,1	0	100	0	0	0
Kujalleq	6,291	60,6	-45,5	0	100	0	0	0

Qeqertalik	6,180	68,6	-52,9	0	100	0	0	0
Qeqqata	9,257	66,1	-52,7	0	100	0	0	0
Sermersooq East	3,077	66,4	-35,3	0	100	0	0	0
Sermersooq West	20,781	63,0	-50,2	0	100	0	0	0
Cruise ships	1,583	69.2	-56.6	60	40	0	0	0
Iceland								
Iceland	398,423	64.1	-21.9	0	16	77	0	6
Cruise ships	6,852	64.1	-24	60	40	0	0	0
Norway								
Northern Norway	1,192,900	63.5	10.9	12	7	63	7	11
Svalbard	3,324	77.9	21.0	15	0	85	0	0
Cruise ships	14,295	73.9	18.9	60	40	0	0	0
Russia								
Murmansk Oblast	667,744	68.9	33.1	7	17	61	0	15
Karelia Republic*	101,670	64.6	30.6	7	17	61	0	15
Arkhangelsk Oblast *	584,835	64.8	40.6	7	17	61	0	15
Nenets AO	41,434	67.6	57.6	7	17	61	0	15
Komi Republic *	137,951	67.5	64.1	7	17	61	0	15
Yamalo-Nenets	510,490	66.1	76.9	7	17	61	0	15
Khanty-Mansi *	51,838	63.7	66.7	7	17	61	0	15
Krasnoyarsk Krai	49,637	72.8	97.7	7	17	61	0	15
Yakutia Republic*	64,207	71.6	128.9	7	17	61	0	15
Chukotka AO	47,490	65.6	171.7	7	17	61	0	15
Kamchatka krai*	12,944	61.4	166.8	7	17	61	0	15
Sweden								
Norrbottn Lan	249,649	67.1	18.5	0	1	87	0	12

Table S2: Data for figure 2. Treatment levels in different regions of the Arctic. *part of the municipality south of the Arctic circle. Coordinates in decimal degrees World Geodetic System 84 (WGS 84). **Including Taymyrsky Dolgano-Nenetsky, Evenkiysky, and Turukhansky dstries. Coordinates in decimal degrees World Geodetic System 84 (WGS 84).

	Inhabitants (PE)	Latitude	Longitude	No treatment/Unknown (%)	Preliminary treatment (%)	Primary treatment (%)	Secondary treatment (%)	Tertiary treatment (%)
Alaska								
North	30,160	69.3	-154.2	1	0	55	44	0
Interior	97,721	65.2	-146.7	12	0	63	26	0
Southwest	54,703	60.1	-158.8	4	0	58	39	0
Southcentral	485,099	61.7	-148.3	23	0	77	0	0
Southeast	71,072	57.5	-135.8	1	0	52	47	0
Cruise ships	36,000	57.8	-149.2	100	0	0	0	0
Canada								
Nunavut	36,840	70.3	-83.2	0	8	32	60	0
Northwest Territories	40,466	64.8	-124.9	0	0	48.5	51.5	0
Yukon	33,607	64.3	-135.2	0	0	46.5	53.5	0
Nunavik	14,930	58.4	-71.5	0	0	50	50	0
Nunatsiavut	3,536	59.7	-64.3	76	0	12	12	0
Cruise ships	91	-	-	100	0	0	0	0
Faroe Islands								
Faroe Islands	54,362	62.0	-6.8	0.3	0	99.7	0	0
Cruise ships	130	-	-	100	0	0	0	0
Finland								
Lappi	110,923	66.7	27.4	0	0	19	45	36
Greenland								
Avannaata	10,906	72,5	-56,1	100	0	0	0	0
Kujalleq	6,291	60,6	-45,5	100	0	0	0	0
Qeqertalik	6,180	68,6	-52,9	100	0	0	0	0
Qeqqata	9,257	66,1	-52,7	100	0	0	0	0

	Inhabitants (PE)	Latitude	Longitude	No treatment/Unknown (%)	Preliminary treatment (%)	Primary treatment (%)	Secondary treatment (%)	Tertiary treatment (%)
Sermersooq East	3,077	66,4	-35,3	100	0	0	0	0
Sermersooq West	20,781	63,0	-50,2	100	0	0	0	0
Cruise ships	1,583	69.2	-56.6	100	0	0	0	0
Iceland								
Iceland	398,423	64.1	-21.9	16	75	0	8	0
Cruise ships	6,852	64.1	-24	100	0	0	0	0
Norway								
Northern Norway	1,192,900	63.5	10.9	19	0	42	31	9
Svalbard	3,324	77.9	21.0	15	84	0	0	1
Cruise ships	14,295	73.9	18.9	100	0	0	0	0
Russia								
Murmansk Oblast	667,744	68.9	33.1	21	38	38	0	0
Karelia Republic*	101,670	64.6	30.6	21	38	38	0	0
Arkhangelsk Oblast *	584,835	64.8	40.6	21	38	38	0	0
Nenets AO	41,434	67.6	57.6	21	38	38	0	0
Komi Republic *	137,951	67.5	64.1	21	38	38	0	0
Yamalo-Nenets	510,490	66.1	76.9	21	38	38	0	0
Khanty-Mansi *	51,838	63.7	66.7	21	38	38	0	0
Krasnoyarsk Krai**	49,637	72.8	97.7	21	38	38	0	0
Yakutia Republic*	64,207	71.6	128.9	21	38	38	0	0
Chukotka AO	47,490	65.6	171.7	21	38	38	0	0
Kamchatka krai*	12,944	61.4	166.8	21	38	38	0	0
Sweden								
Norrbottn Lan	249,649	67.1	18.5	1	0	4	95	0